

## Highlights of the Quarterly Meeting

### **FEDERAL INTERAGENCY COMMITTEE ON INDOOR AIR QUALITY (CIAQ)**

Wednesday, January 22, 2003

**Introduction:** given by Mary T. Smith, EPA Co-Chair. Members and guests introduced themselves.

#### **NIST - National Institute of Standards and Technology Update - Summarized by Phil Jalbert, EPA**

Evaluation of Displacement Ventilation and Thermally De-coupled Ventilation Systems: NIST is beginning a study for the EPA to perform an initial evaluation of the potential benefits and limitations of advanced ventilation systems, including displacement ventilation (DV) and thermally de-coupled ventilation (TDV) systems in commercial buildings. This study will include a literature review and simulations that will provide insight to the potential benefits and limitations of DV and TDV systems.

BASE Ventilation Data: NIST is continuing to analyze the ventilation data collected as part of the EPA BASE study of 100 office buildings. We are focusing on outdoor air intake rates, supply airflow rates and how building factors affect these rates. We should have the data analyzed by end of February or early March.

Study of Hybrid Ventilation: With DOE and ARTI funding, we are continuing a simulation study to examine the performance of natural and hybrid ventilation systems in U.S. office buildings. We are performing airflow simulations to look at issues of ventilation reliability, air distribution, outdoor air quality impacts, and energy.

HUD projects: NIST is continuing a number of projects funded by the Healthy Homes Initiative and the Office of Policy Development and Research. They include:

- Definition of a set of residential buildings that represent the U.S. residential housing stock.
- Modeling of indoor contaminant sources, focusing on moisture, cooking, and other activities.
- Development of a database of IAQ modeling inputs including source strengths, deposition rates, filter efficiencies.
- Study of airflow and contaminant transport from attached garages in single-family residences. We have conducted blower-door pressurization tests of five houses/garages in the D.C. area to determine the relative air tightness of the garages and the garage-house interface. This data will be compared to similar data in the literature to determine important model parameters for the planned simulation study.
- Long-term study of moisture transport and the ability to predict indoor moisture levels in an occupied townhouse. Additional data on humidity has been collected and will be analyzed for comparison to model predictions.

IEQ Performance Metrics: NIST is continuing a project to investigate the development of metrics to quantify indoor environmental conditions, specifically what has been proposed, how metrics could be used, are we ready yet, and what work needs to be done. A workshop on the subject was held at the latest ASTM meeting, which resulted in the following project ideas to pursue: a rating scheme for building design/operation/maintenance, standardized or reference buildings and exposure scenarios, and measured concentration (IAQ) metrics based on existing work. If anyone is interested in commenting on the draft report, summarizing the workshop and its outcomes, please contact Cindy Howard Reed at (301) 975-8423, [chreed@nist.gov](mailto:chreed@nist.gov); or Andy Persily at (301) 975-6418, [andyp@nist.gov](mailto:andyp@nist.gov).

NIST Test House: NIST is continuing testing of its new doublewide manufactured test house on the NIST campus. We are focusing on establishing its air tightness and ventilation characteristics and have developed a CONTAM model of the building. We will be conducting studies of mechanical ventilation, air cleaning, VOC emissions from building materials, and residential moisture issues.

**ASHRAE STANDARD 62:** Four addenda went through public comment this fall: 62g on separation of smoking and nonsmoking spaces, 62h on the alternative IAQ Procedure for ventilation system design, 62n on the Ventilation Rate Procedure for determining design outdoor air intake rates, and 62y on limitations of re-circulating air from certain spaces types to others. The committee will be analyzing the public review comments received at their meeting later this week in Chicago. The committee previously recommended publication of four new addenda: 62r, which requires outdoor air quality assessments and filtration when outdoor particulate concentrations are elevated; 62z, which requires air cleaning when outdoor ozone levels are elevated; and, 62ad, which updates an informative appendix on contaminant concentration guidelines issued by other bodies; and 62af, which modifies the scope to clarify how the standard applies to new and existing buildings and to industrial and laboratory spaces. These recommendations to publish will be acted on by the ASHRAE Standards Committee and Board of Directors later this week. For more information contact Andy Persily (301-975-6418 or [andyp@nist.gov](mailto:andyp@nist.gov)).

Comments from the fourth public review have been received and will be addressed by the committee at its meeting in Chicago. Also, the committee continued work on a companion guideline to standard 62.2P. A draft detailed outline of Guideline 24P has been completed. For more information contact Steven Emmerich (301-975-6459 or [steven.emmerich@nist.gov](mailto:steven.emmerich@nist.gov)).

#### **DOE - Department of Energy Update - Terry Logee**

The fourth public review on ASHRAE's residential ventilation standard closed on December 23, 2002. Only limited sections of the standard were subject to review. Twenty-eight comments were received from seven parties. Responses are being drafted and will be voted on during the meeting this January. Please contact Max Sherman for more information ([mhshearn@lbl.gov](mailto:mhshearn@lbl.gov)).

Lawrence Berkeley National Laboratory (LBNL) and the Helsinki University of Technology initiated collaborative work on incorporation of health and productivity effects in cost benefit modeling related to building design and operation. This work is part of a broader effort by a Task Force of the International Society of Indoor Air Quality and Climate (ISIAQ). Work to date has included: a) development of the model framework; b) assessing the availability of information needed to develop quantitative relationships between IEQ conditions and health / productivity and between health and productivity outcomes and financial outcomes; and c) detailed reviews of the relationships between office temperature and work performance and between ventilation rates and absence. Work on example cost benefit analyses of economizer systems and night-time ventilation and cooling is underway. Please contact Bill Fisk for more information ([wjfish@lbl.gov](mailto:wjfish@lbl.gov)).

DOE is initiating a new project focusing on ventilation of classrooms. A substantial emphasis will be on an evaluation and demonstration of quiet, energy efficient HVAC technologies that can provide the currently recommended minimum ventilation rates. Discussions with a major classroom HVAC manufacturer are underway to specify the technologies that will be evaluated. Please contact Michael Apte for more information ([mgaapte@lbl.gov](mailto:mgaapte@lbl.gov)).

LBNL continued analyses of the EPA BASE data set to examine the relationships of SBS symptoms with indicators of contamination or maintenance quality in HVAC systems, with moisture problems in buildings, and with space cleaning practices. Data analysis models are being expanded to enable control for a range of potential confounding factors. Please contact Bill Fisk for more information ([wjfish@lbl.gov](mailto:wjfish@lbl.gov)).

LBNL and National Institute of Science and Technology (NIST) initiated collaborative research on ventilation and pollutant concentrations in a new manufactured house set up at NIST as a research facility. Formaldehyde and VOCs are being measured monthly. Concentrations of many predominant VOCs have remained relatively stable over the last four months with larger variations observed for formaldehyde. Please contact Al Hodgson for

more information (athodgson@lbl.gov).

LBNL continued to serve on the National Academy of Sciences Committee on Damp Indoor Spaces and Health. First drafts were completed on two chapters of the committee's report.

The DOE\_LBNL IAQ Web site is live at: <http://eetd.lbl.gov/ied/viaq/viaq.html>. There are four topics on this Web site, Ventilation Rates and Technologies, Indoor VOCs, Sick Building Syndrome, and Filtration for Particles and Other Pollutants. There is a reference section and a lengthy list of publications, many downloadable in PDF. For more information, please contact Bill Fisk ([wjfisk@lbl.gov](mailto:wjfisk@lbl.gov)). LBNL recently published the following papers:

- Seppanen, O and Fisk WJ (2002) Association of ventilation system type with SBS symptoms in office workers. Indoor Air 12: 98-112.
- Fisk WJ, Faulkner D, Palonen J, Seppanen O (2002) Performance and cost of particle air filtration technologies. Indoor Air 12: 223-234.
- Hodgson AT, Beal D, McIlvaine JER (2002) Sources of formaldehyde, other aldehydes, and terpenes in a new manufactured house. Indoor Air 12: 235-242.

#### **EPA – Environmental Protection Agency Update - Mary T. Smith, Phil Jalbert**

##### **ORD – Office of Research and Development Activities - Mary T. Smith**

**National Center for Homeland Security Research:** The Environmental Protection Agency's Office of Research and Development (ORD) has formed a new organization, the National Center for Homeland Security Research, composed of three functional teams: Rapid Risk Assessment, Water Infrastructure Security, and The Safe Buildings Program (SBP). The SBP addresses both protection of building occupants and building decontamination. Numerous applied research projects are planned over the next two years in detection, containment, decontamination, disposal, and risk communication. Work is underway on testing of detection and decontamination methods, waste disposal specifications, and characterization of residential safe havens. Please contact Nancy H. Adams for details (919-541-5510, [adams.nancy@epa.gov](mailto:adams.nancy@epa.gov)).

##### **IED - Indoor Environments Activities - Mary T. Smith**

**Federal-Industry Housing Partnership:** IED is participating in a Federal-Industry housing partnership that is being coordinated by the USDA's Forest Service Products Laboratory (FSPL) and HUD. The group's primary purpose is to coordinate and disseminate information on housing-related activities, programs, and research. Please contact Phil Jalbert/EPA for details (202.564.9431, [jalbert.philip@epa.gov](mailto:jalbert.philip@epa.gov)).

**Residential Moisture Management Network (RMNN):** In December 2002 a government-industry group was organized to disseminate information related to moisture and its management/control in the residential environment. The RMMN is being jointly led by the USDA/FSPL and the Engineered Wood Association (APA), and will launch the first iteration of its website soon ([www.rmmn.org](http://www.rmmn.org)). Please contact Phil Jalbert/EPA for more information (202.564.9431, [jalbert.philip@epa.gov](mailto:jalbert.philip@epa.gov)).

**ASTM Mold Task Group Formed:** The ASTM Subcommittee on Real Estate Assessment & Management (E50.02) has formed a task group (TG) to develop a uniform format and standard baseline document for parties concerned with mold screening. The point-of-contact (POC) for the TG is Bob Barone of Inspection and Valuation International, Inc. (914.694.1900, x213, [robert.barone@ivi\\_intl.com](mailto:robert.barone@ivi_intl.com)).

**IAQ Conference:** The Indoor Air Quality Problems and Engineering Solutions Symposium will be held July 21-23, 2003, in Research Triangle Park, NC. Co-sponsors are EPA's National Risk Management Research Laboratory (NRMRL), and the Air & Waste Management Association (AWMA). Abstracts are due February 1st. Contact Denise Stotler for more information (414.232.3444, x3111, [dstotler@awma.org](mailto:dstotler@awma.org)) or visit the website at [www.awma.org/events/](http://www.awma.org/events/).

Environmental Tobacco Smoke (ETS) Risk Assessment: A month ago, the fourth circuit Federal court in Richmond made a positive decision on EPA's behalf in the litigation that has been going on since 1993 on EPA's environmental tobacco smoke (ETS) risk assessment. That case was argued in June 2000. To refresh people's memories, in late 1992 EPA issued the risk assessment on environmental tobacco smoke, classifying ETS as a Class A carcinogen, EPA's highest rating, which is a known human carcinogen. Approximately 3,000 lung cancer deaths per year are due to ETS. Also, exposure to ETS is responsible for a host of health problems in children, including about a million asthma attacks each year, and ear infections. Since then much more science has been developed on this issue, in particular a 1997 California report, which identified other effects including SIDS, low birth weight, and cardiovascular problems.

In early 1993, the tobacco industry sued the EPA over its risk assessment, with the suit going to the District Court in North Carolina. In its 1999 decision, the court found that EPA hadn't followed its statute in terms of process. It claimed that EPA should have formed a different type of scientific panel to review the science around the risk assessment. The panel that EPA used was the existing Science Advisory Board, which has outside scientific experts. The court found that the EPA panel should have included a tobacco industry representative; despite the fact that EPA gave the industry the opportunity of appearing before the SAB and submitting comments. EPA appealed the NC court's decision to the fourth circuit court in Richmond. The court issued its decision a month ago indicating that, much as EPA had argued previously, that the risk assessment wasn't a final agency action under the Administrative Procedures Act (APA).

The meaning of this finding is that according to the Supreme Court it doesn't create rights and responsibilities on the part of any parties. The decision confirms that EPA's action was a scientific determination, not a decision, because if it were we would all be sued on every scientific paper EPA released. Since the fourth circuit court's decision, EPA is waiting for the exhaustion of remedies to the Supreme Court. Just a week or so ago Philip Morris indicated they weren't going to pursue litigation. EPA should know by mid-March whether the decision from the fourth circuit will be pursued any further. EPA is pleased with the fourth circuit court's decision.

National Radon Action Month: This month is National Radon Action Month. EPA has many radon related activities around this issue, including EPA Administrator Christine Todd Whitman's involvement in events.

Indoor Air Quality Tools for Schools (IAQ TFS) Program. EPA has posted this new document to its website [www.epa.gov/iaq](http://www.epa.gov/iaq); printed copies should become available in about a month. The document is about why schools should adopt *IAQ Tools for Schools* from a cost-benefit perspective. It is not highly technical, it's more for general consumption to make the argument for school-wide *IAQ Tools for Schools* adoption. After EPA implemented *IAQ TFS*, we saw fewer kids coming into the nurse's office for asthma inhalers, and schools reported improved student performance, etc. EPA expects to have printed copies available at the April 23<sup>rd</sup> CIAQ meeting.

Design Tools for Schools: In the February to March time frame, EPA will post to its website, the final version of its *Design Tools for Schools*. This is guidance for designing new schools from the ground up and keeping IAQ in mind. It includes green building aspects and building a healthy school. EPA is in the last phase of incorporating comments received from reviewers, and obtaining Agency approval to publish. This document will only be available on the website. EPA will not produce a printed version; from its inception, this document was envisioned as a web-based module only.

Cook Stoves: EPA is launching an international initiative on cook stoves as a result of the Johannesburg meeting. The EPA Administrator recently announced the cook stoves project. EPA is in the process of pulling together country partners, industry partners, and non-profit partners to launch this initiative. EPA is finding it challenging

to work on an international level.

This was Mary Smith's last CIAQ Meeting for EPA. Mary announced that she's been with the IED Program for 7½ years and 30 CIAQ meetings. She is moving to EPA's HQ Office of Water in the main EPA building starting Monday, February 3. Mary Smith said, "I have enjoyed working with all of you. I was looking around the room today thinking, boy there are a lot of new faces from a year ago! Participation has turned around. I've enjoyed working with the agencies and have enjoyed the meetings where we share information."

CIAQ Member Agency Website Links. Phil Jalbert provided a handout showing the candidate links for each of nine departments and agencies. Phil and the CIAQ members have been working to take the CIAQ website to the next level of detail, i.e., establishing links to member agencies and showing point-of-contact information. In early January Phil sent the CIAQ members an e-mail about this next step. It included the candidate links and noted that the link would include the POC and contact information (an e-mail connection initially).

Phil reported that he'd received two positive responses (Bonneville Power Administration, and NIST) and no negative responses to the proposed links, etc. Phil reported not having heard from anyone else on the list. The agencies not on the initial list included Agriculture, DOD, Interior Department, Justice Department, State, Department of Transportation, Treasury, SBA, and USIA. These were not included because Phil reported not having yet identified the most appropriate links for the IAQ related activities in these agencies. Also, some of these CIAQ members have not participated very actively in recent years, despite our best efforts to keep them informed and involved. That's another reason why these agencies are in the second tier. Phil asked members on the list whether these links were the best available for the purpose. Phil said he'd presume they are OK unless he heard otherwise from CIAQ members by the end of February. At that time Phil will make these links active.

**Announcements.** Speaking on behalf of AIHA's Saloma Blond, Phil Jalbert reported that each year, AIHA and ACGIH co-sponsor the American Industrial Hygiene Conference and Exposition (AIHCE). This year's conference is in Dallas from May 10-15, and is expected to attract 8,000 attendees from the occupational and environmental health and safety spectrum. The program offers 75 hours of mold education on the latest developments in this field. Visit [www.aiha.org/aihce03/aihce.htm](http://www.aiha.org/aihce03/aihce.htm) for more information. Phil also distributed a handout about this conference, which included two questions AIHA is interested in receiving answers to from CIAQ members: (1) AIHA would like the CIAQ committee's advice on which organizations should be approached to assist in promoting the conference (sharing of constituency lists, newsletter mentions, etc.); and, (2) AIHA also is interested in posting their web link on the CIAQ website.

**NEXT CIAQ MEETING:** Wednesday, 23<sup>rd</sup> April 2003 from 1:00 to 3:30 pm at Judiciary Square.

**CIAQ Attendees: Wednesday, 22 January 2003**

<b>First</b>	<b>Last</b>	<b>Agency/Org</b>	<b>Phone</b>	<b>Email</b>
Michael	Broder	TVA	256-386-2475	mfbroder@tva.gov
Helga	Butler	EPA	202_564_9335	butler.helga@epa.gov
Gary	Carter	IHS	301-443-1043	gcarter@hqe.ihs.gov
Edward	Crandall	IRS	202-283-9362	ed.t.crandall@irs.gov
Jeff	Davidson	EPA/OARM	202-564-1650	davidson.jeff@epa.gov
Vic	Ferrante	HUD	202-708-6423	vferrante@hud.gov
John	Fitzpatrick	HUD - CPD	202.708.0614 x5602	John_e._fitzpatrick@hud.gov
Eugene	Godwin	DoD/ASN	703-588-6675	godwin.eugene@hq.navy.mil
Vickie	Hawkins	DoD/DA	410-436-5462	vickie.hawkins@amedd.army.mil
Phil	Jalbert	EPA/IED	202.564.9431	jalbert.philip@epa.gov
Laura	Kolb	EPA	202-564-9438	kolb.laura@epa.gov
Terry	Logee	DOE	202.586.1689	terry.logee@ee.doe.gov
Chris	Patkowski	EPA	202.564.9016	patkowski.christopher@epa.gov
Stephen	Sauer	IE Communications	301-230-9606	iecnnews@aol.com
Jamie	Simpson	The Cadmus Group	703.247.6115	jsimpson@cadmusgroup.com
Mary	Smith	EPA/IED	202.564.9370	smith.maryt@epa.gov
Monica	Spann	EPA	703.305.6459	spann.monica@epa.gov
Hank	Spolnicki	CND	703.602.2574	spolnicki.hank@hq.navy.mil
Bryan	Steverson	GSA	202.501.6115	bryan.steverson@gsa.gov
Rex	Tingle	OSHA	202-693-1926	Rex.tingle@osha.gov
Karen	Trebon	GSA	202.501.1802	karen.trebon@gsa.gov
Jesse	Walter	IRS	202-283-9363	jesse.w.walter@irs.gov
Peter	Wixted	DOC	202-482-3444	pwixted@doc.gov
Debra	Yap	GSA	202-501-4373	debra.yap@gsa.gov
Jim	Zawada	GSA	202-501-1794	james.zawada@gsa.gov